



**FIGURE 5.1**

*Day 180, Venus Fly Trap*

*(Lorraine Loots, 2013)*

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*chapter five*

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# CONCEPTUAL DEVELOPMENT

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## & PRECEDENTS

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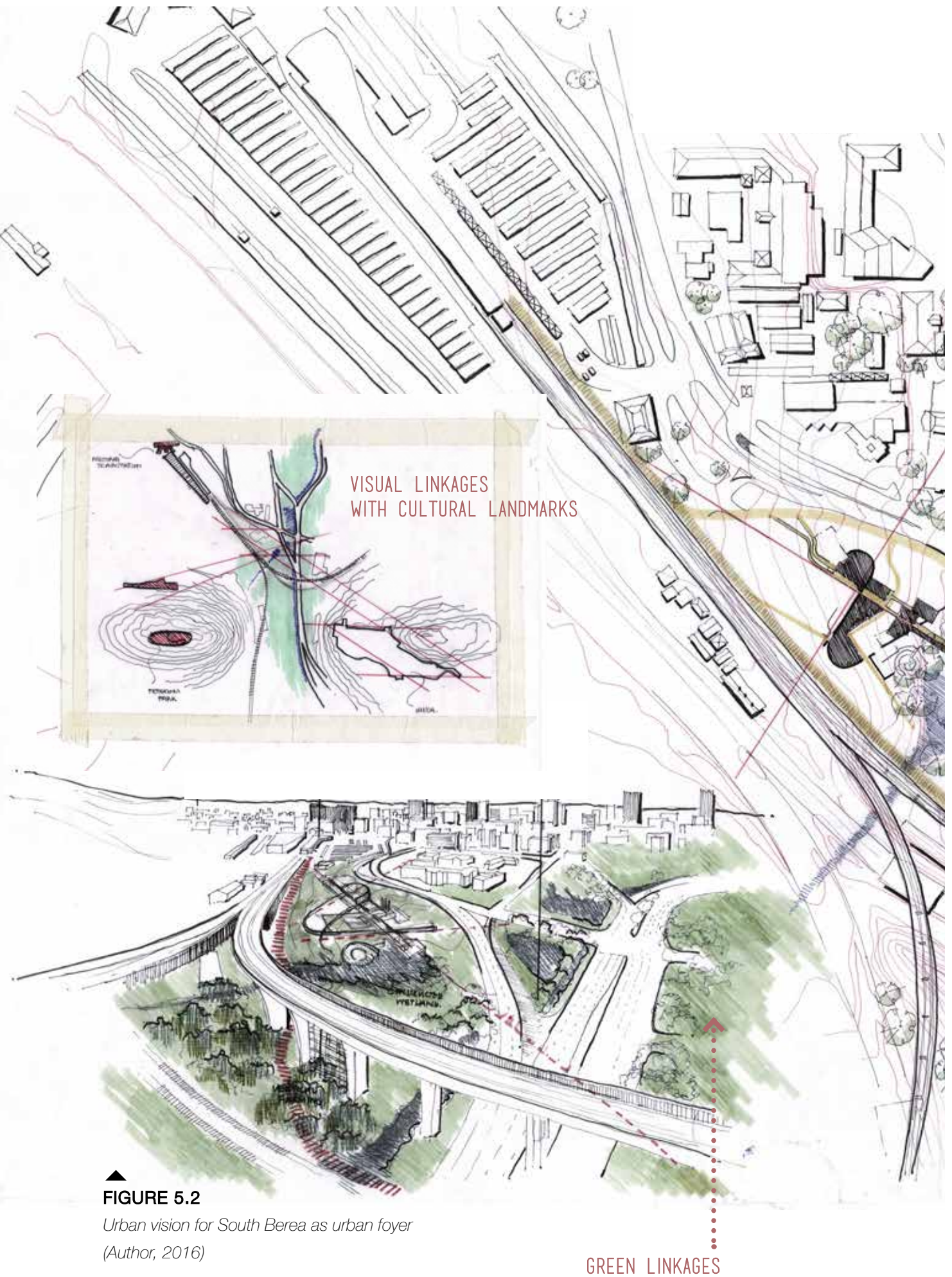
5.1 PREFACE

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The following chapter aims to translate all the contextual and programmatic informants and intentions in order to embed these within the theoretical framework stipulated in Chapter Two. The theoretical framework not only allows for conceptual interventions to be implemented on **different scales**, but also makes it possible to address the **three core concepts** that the scheme needs to achieve: the **healing of the land**, the **healing of its people**, and the **restoration of a reciprocal relationship** between them on equal terms.

Relevant **precedents** will be discussed throughout the chapter to illustrate how certain theories and approaches have been applied. These different approaches on different scales of implementation will generate **various architectural concepts**, but all with one common goal: to **reconcile** man and nature through the process of **healing and celebration**.





**FIGURE 5.2**  
*Urban vision for South Berea as urban foyer*  
(Author, 2016)

GREEN LINKAGES



## 5.2

## URBAN PROPOSAL

## REGENERATIVE ETHOS

## 5.2.1 AN URBAN FOYER INTO THE PRETORIA

CBD

The most fundamental aspect that the urban proposal will address is to engender the precinct of South Berea with its intended identity as an **“urban foyer”** to the rest of the city. In order to achieve this, the inherent qualities of the area should be **enhanced, celebrated** and made **accessible** to the public.

Multiple open spaces can be found along the spine of Nelson Mandela Drive, such as Berea Park, the UNISA Sunnyside Sport Fields, the Groenkloof Nature Reserve and the Freedom Park Reserve, that could be tied together within an urban vision to enhance South Berea’s identity as an **“green urban foyer”** of the city, presenting major opportunities for the renewal of the precinct in terms of **pedestrian-friendly** and **accessible ecological corridors**, in order for it to regain an important place on the mind maps of people living in Pretoria.

By proposing an urban vision that is able to reconnect human aspirations and activities with the evolution of natural systems, effectively leading to co-evolution, it becomes possible to engender the area with a **regenerative mindset** that aspires to merge the inhabitants of South Berea and the people of the city with nature as an integral part of the whole.



CONSTRUCTED WETLANDS



# Urban Design Precedent

*Sagrera Linear Park, Barcelona, Spain, West 8 Urban Designers, 2011*

An example of such an initiative within an urban condition is a theoretical urban proposal for Barcelona by West 8 Urban Designers. The Sagrera Linear Park (West 8: 2011) is to become a new green diagonal axis that extends into the very heart of XXI Century Barcelona, aiming to be a protagonist of a new era of a greener and more habitable metropolis which is in direct contact with its natural surroundings. The park not only improves biodiversity in the city but also seeks to be a counterpoint to the urban frenzy and activity present in Barcelona, allowing its users to experience the benefits of a green welcome carpet into the city.



## 522 A PUBLIC AND PRODUCTIVE GREEN CORRIDOR

Social, cultural and economic activities in South Berea will be integrated with the ecology of the area by proposing **four essential strategies** for the existing but underutilized green corridor running through the area.



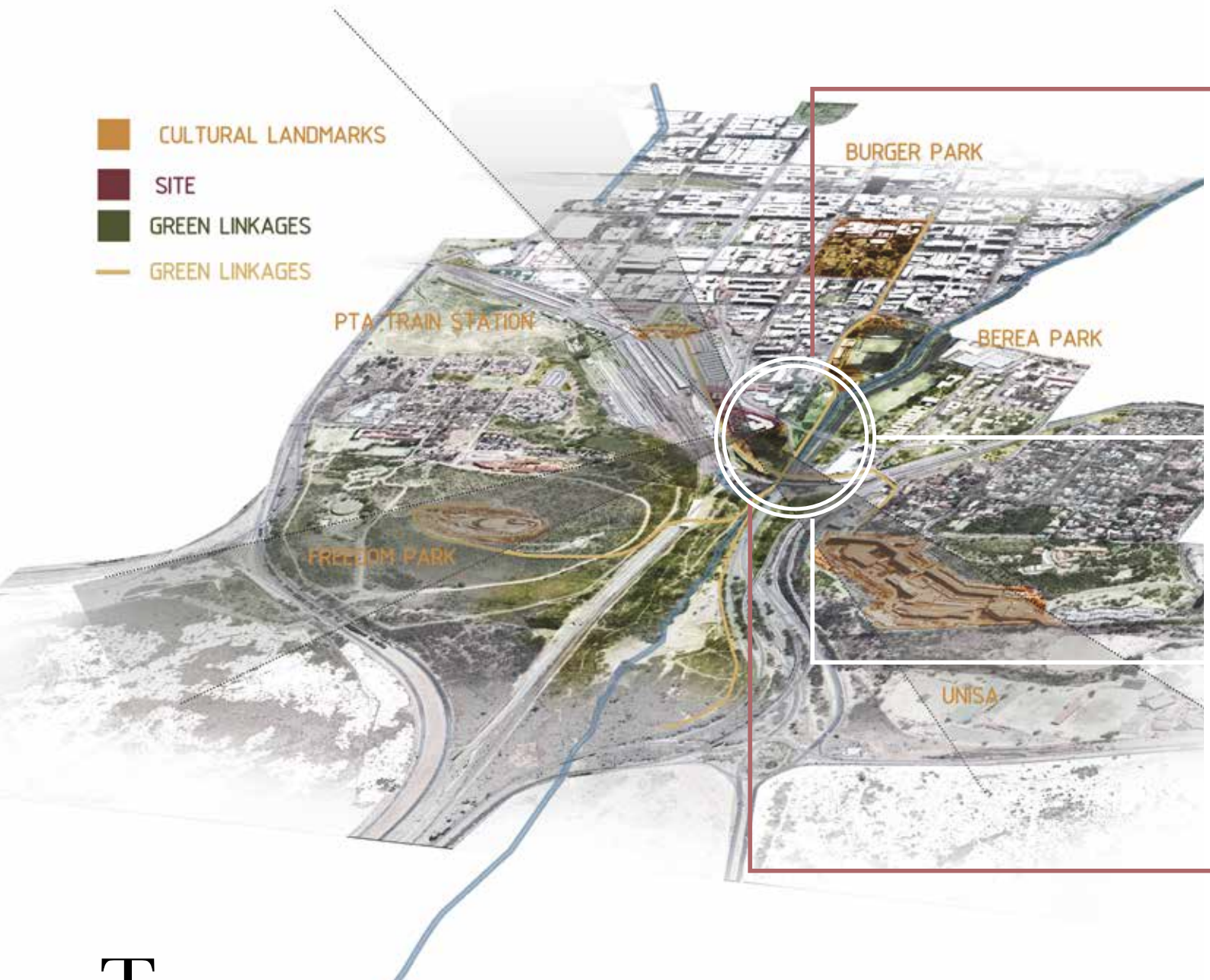


**FIGURE 5.3**

*Sagrera Linear Park, Barcelona, Spain*

*West 8 Urban Designers . 2011*

*(West8, 2011)*



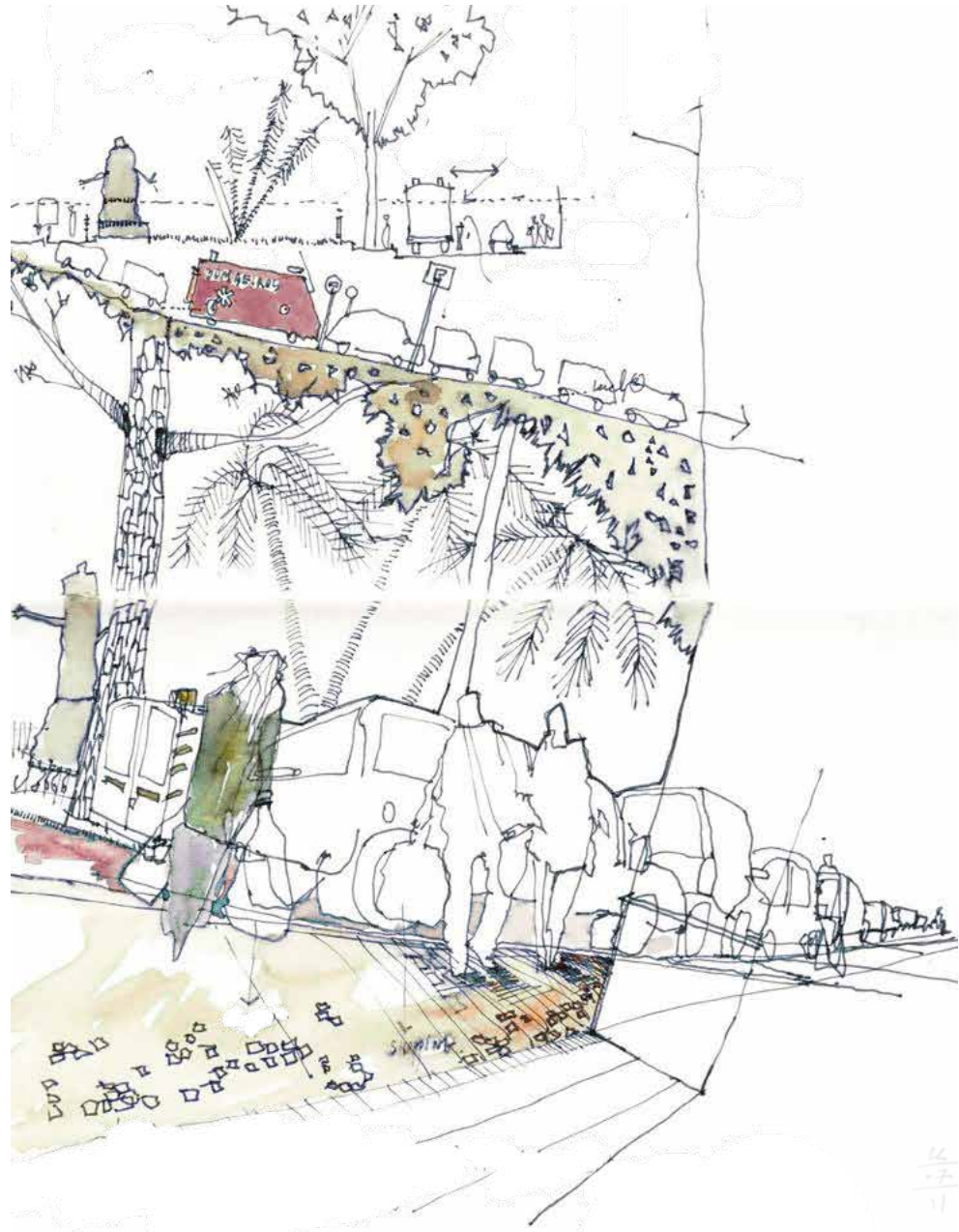
The first is to establish **linkages** between all the detached green spaces along Nelson Mandela Drive through the implementation of pedestrian-friendly walkways and activity routes. These routes should be of a hybrid nature, some allowing for cycling that connects to the nature reserves towards the south, and others connecting to urban activities towards the north. **Culturally** and **historically** significant linkages with Freedom Park, Berea Park and the Pretoria Station can also be made to ensure a richer narrative for the urban open space system of the city. These linkages should be strengthened through the introduction of interactive street furniture at regular intervals, including **seating and lighting** to illuminate walkways at night for security and surveillance. **Surface treatments** should also be considered to improve legibility and to slow down vehicular movement at pedestrian crossings.



FIGURE 5.4

*Strategy 1: Linkages and Stitching (Author, 2016)*





The second strategy is to establish stronger linkages between the Pretoria Gautrain Station and the rest of the Berea precinct, as a large percentage of Berea residents rely on **public transport**. The Gautrain will also become the main carrier of pedestrians moving to and from the surroundings. This **route** should thus present a character that allows for multiple activities. The route should be wider to accommodate street lighting, tree lanes and street vending and informal market possibilities. **Informative signage** should be provided to improve legibility and inform users of the significance of place, people and nature.

FIGURE 5.5

*Strategy 2: Movement and Accessibility (Author, 2016)*





After these strategies have been implemented to facilitate the existing human activities, it now becomes necessary to address the **natural condition** of the green belt/spine. The third strategy is thus focused on the **restoration of the brownfield sites** along this spine, achieved by **eradicating invasive species**, ensuring **maintenance** initiatives, and upholding linkages that facilitates public accessibility. Furthermore, the topography along the Apies River also suggests defined flood plains, which can serve as a guide on how **constructed wetlands** can be incorporated along the spine, to ensure a biodiverse and sustainable precinct to enhance the entrance as a natural habitat that people of the city can associate with.



**FIGURE 5.6**

*Strategy 3: Ecological Remediation (Author, 2016)*





The final strategy is to introduce **urban agriculture** to the open spaces along the spine, to not only **remediate** the land through **permaculture**, but also unlock **economic potential**, for there is a large component of the female residents of Berea that are unemployed. By initiating urban agriculture in these lost spaces, functional urban green spaces will be provided that could together become a **designed ecosystem** that integrates natural and human living systems, in order to create and sustain greater health and well-being for both. The incorporation of these four strategies in the vision for South Berea as the urban foyer of Pretoria aims to shift the communities in the area, as well as their economic activities, **back into alignment with the natural processes inherent to place**, to mitigate the outcomes of human activity on nature.

▲  
**FIGURE 5.7**

*Strategy 4: Urban Agriculture (Author, 2016)*





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A significant example of how open space can be utilized to create value by cultivating the land in a collective effort is the Value Farm project in Shekou, China (ArchDaily, 2014). The project intersects issues of urban transformation, architecture and urban agriculture, and explores the possibilities of urban farming in the city and how it can be integrated with community building.

Besides creating a green oasis above the urban chaos and reconnecting city inhabitants with nature and the therapeutic hands-on experience of growing crops, urban farming offers a sustainable, secure, accessible food supply. The project considers transforming an entire demolished wet-market block into a terrain for farming. The concept of the historical green rooftop configurations of Hong Kong is translated by means of brick enclosures at different heights allowing for varying soil depths for different crops. Original stair cores are converted into brick platforms and open pavilions, and an irrigation pond that collects water from the site's natural underground source all contribute to serve as a test bed of living, participatory, urban farming event-architecture.

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## *Urban Farming Precedent*

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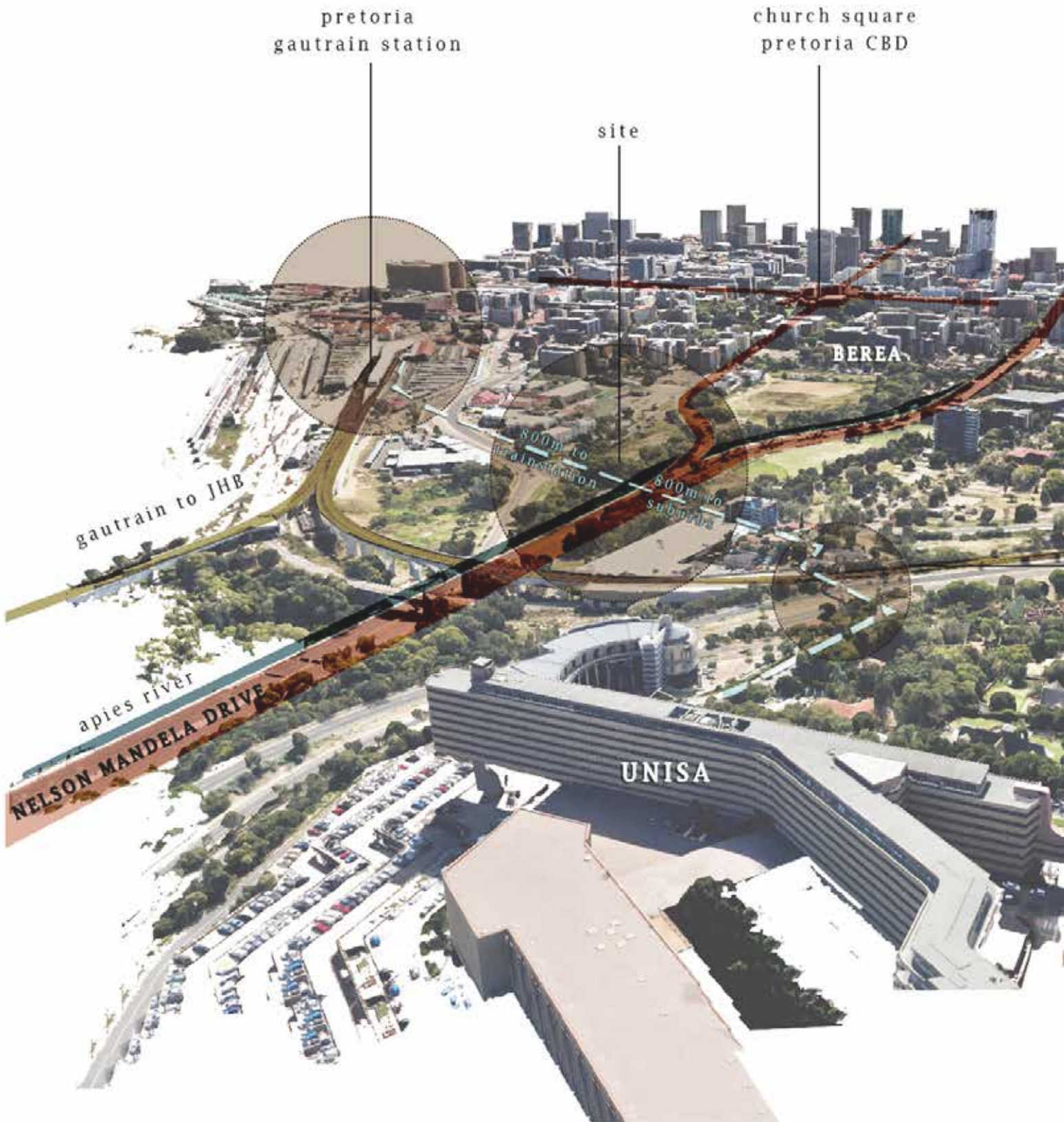
*Value Farm, Shekou, China, Thomas Chung, 2013*



**FIGURE 5.8**

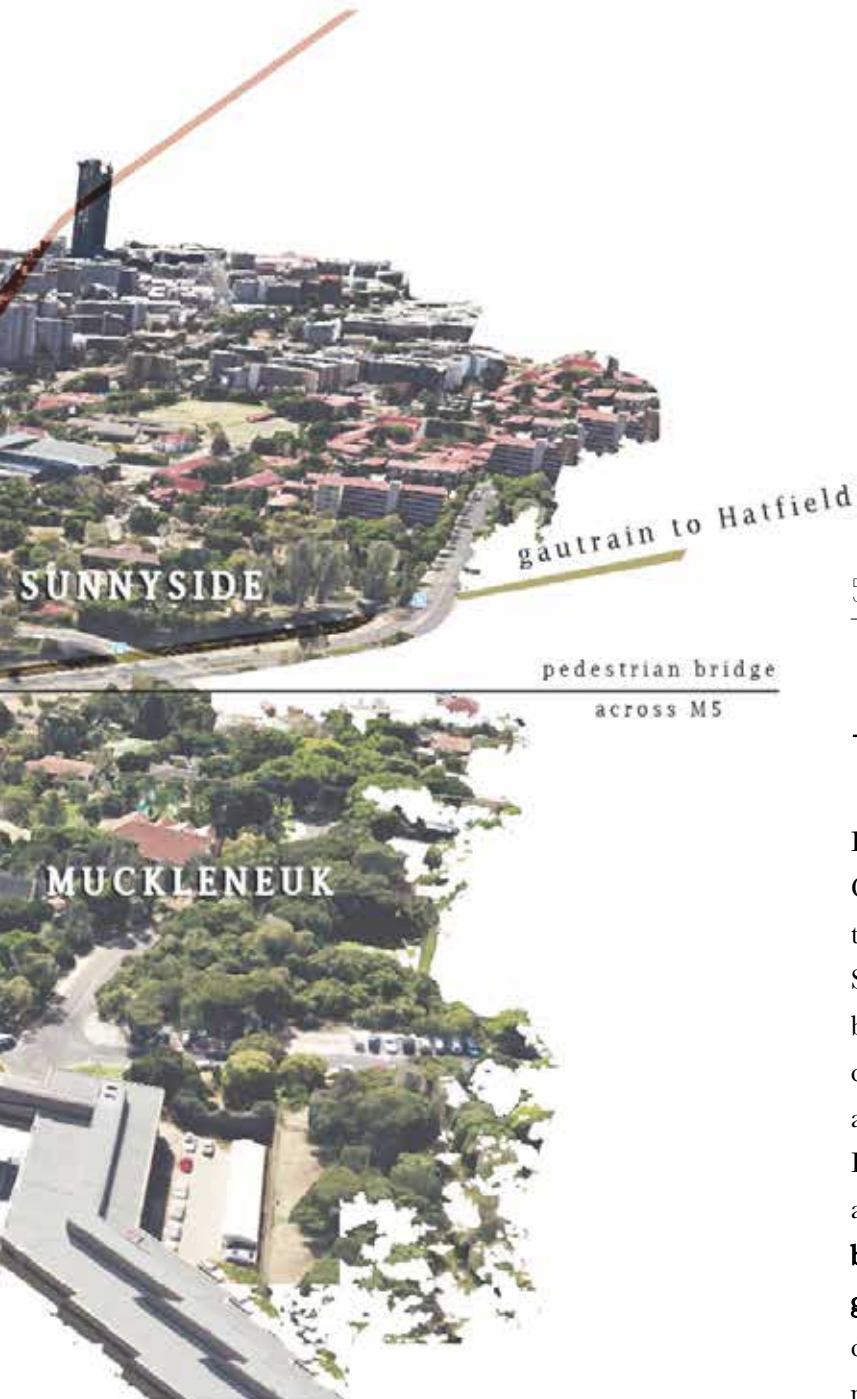
*Value Farm. Shekou, China Thomas Chung, 2013  
(ArchDaily, 2014)*





**FIGURE 5.9**

*Established connections between the East and West (Author, 2016)*



### 5.23 RESTORING RECIPROCITY BETWEEN THE EAST AND THE WEST

Urban elements such as Nelson Mandela Drive, Elandsport Road and the train tracks of the Gautrain Station serve as major barriers between the communities of Muckleneuk, Sunnyside and South Berea. In effect, no interaction occurs between these three communities, a fact which contributes to the fracturing of the urban fabric and the loss of a holistic identity for the area. However, all sides have much to offer one another, and by envisioning the **hard existing buffer to be replaced by an accessible and permeable green spine**, the physical disconnection can be changed to one of reciprocal interaction. Thus the proposed dissertation will contribute to the larger urban framework of the discarded landscape of the West, by facilitating the reconnection between the western and eastern suburbs of Pretoria through the common sharing of a green belt that is accessible by the public.





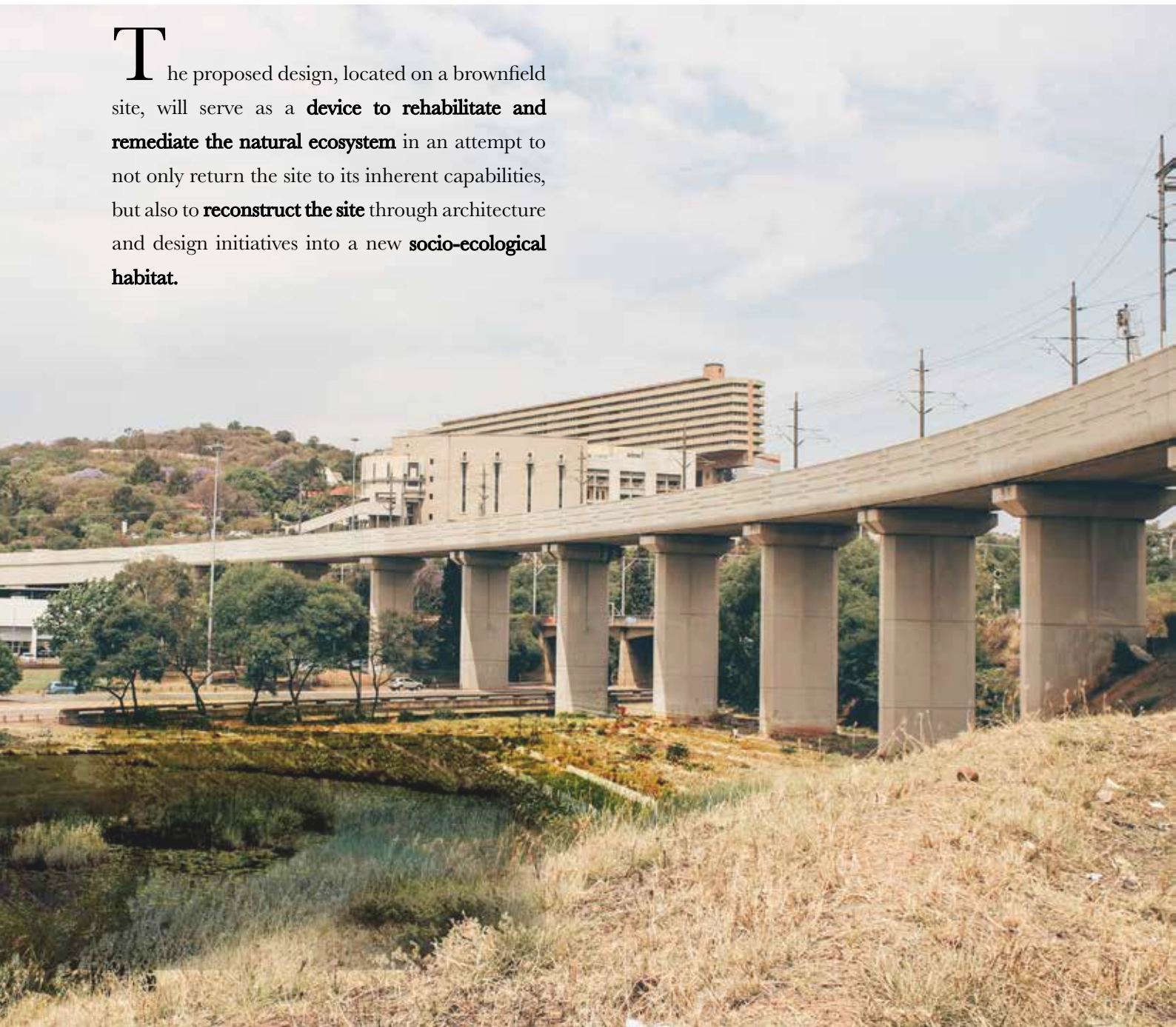
▲  
**FIGURE 5.10**  
*The healing of land*  
(Author, 2016)



## 5.3 HEALING THE LAND

### BIOREMEDIATION

The proposed design, located on a brownfield site, will serve as a **device to rehabilitate and remediate the natural ecosystem** in an attempt to not only return the site to its inherent capabilities, but also to **reconstruct the site** through architecture and design initiatives into a new **socio-ecological habitat**.







**FIGURE 5.11**

*Sarah Bartmann Centre of Remembrance, Eastern Cape, Chris Wilkinson (Wilkinson Architects ,2011)*



# Place-Based and Vernacular Precedent

Sarah Bartmann Centre of Remembrance in the Eastern Cape | Chris Wilkinson

## 5.4 HEALING THE PEOPLE

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### BIOPHILIA

The principles, elements and characteristics predominant in nature that are translated into architectural solutions becomes the foundation for establishing a **biophilic building** that will allow for human beings to reconnect with nature (Kellert & Calabrese, 2008: 12). The aim is to consequently **support the healing process to ensure the well-being of all urban inhabitants** affected on different levels by urban diseases. The key conceptual principles that ensures a biophilic outcome are the following:



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A local precedent that illustrates an inherent connection to its natural, cultural and historical context is the Sarah Bartmann Centre of Remembrance (Wilkinson Architects: 2011). It honours the life of Sarah Bartmann as well as the heritage of the Khoi-San people. The burial site of Bartmann in Hankey, Eastern Cape, was established as a sacred place, and therefore the design was approached by expressing a circular route or procession that leads from the informal to the sacred, through the means of memory, healing and celebratory spaces. The architectural outcome responds to the landscape, vegetation and climate of the area in a sensitive manner, by proposing subtle references to the Khoi-San people. Different sensory experiences, rather than the imitation of natural features are used as architectural tools.

The defining route through the building that indicates the transitions of experience for the visitor becomes a valid approach to restore reciprocity between two states, an approach that is equally valid in a wellness centre that attempts to educate, heal and celebrate the connection between humans and nature.

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In close proximity to the site, Freedom Park (Mashabane, Rose: 2004) represents an example of how nature can be translated into symbolic representations of architecture by considering concepts that arise from indigenous knowledge. The undulating rock walls, boulders and rock gardens establish an architectural language, and the most unique design aspect of Freedom Park in its setting is the relationship that it has with the landscape and the shape of the hill. The project sets out to integrate architectural elements and sculpture with the landscape to create a unique place.

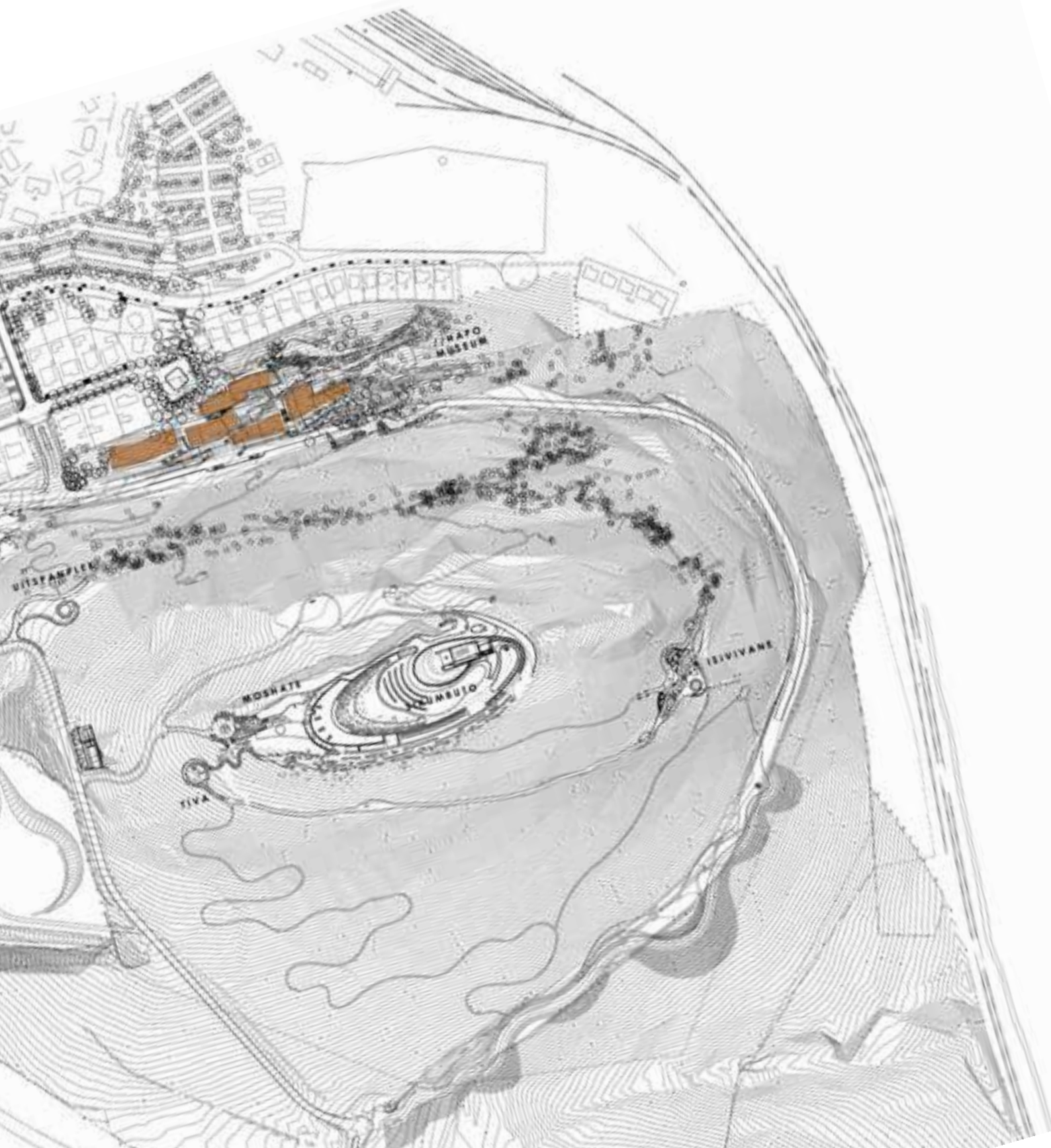
Furthermore, the design encompasses ideas from rural architecture and urban formations from sites across southern Africa, including Mapungubwe, Great Zimbabwe and the mountains in the Free State, that include architectural elements inspired by botanical motifs and organic forms.

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**FIGURE 5.12**

*Freedom Park, Pretoria, South Africa,  
Mashabane Rose Associates, GAPP, MMA, 2004  
(Mashabane & Rosel, 2004)*





# *Natural Analogues Precedent*

Freedom Park, Pretoria, South Africa, Mashabane Rose Associates, GAPP, MMA, 2004





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The Sancaklar Mosque (ArchDaily, 2014), located on the outskirts of Istanbul, illustrates the implementation of various natural features and how these contribute to creating a sense of being immersed in nature.

The architect aimed to address the fundamental issues of designing a mosque by distancing himself from the current architectural discussions based on form, and focusing solely on the essence of religious space and the connection that it seeks with the natural environment. High stonewalls surrounding the building depict a clear boundary between the chaotic outer world and the serene atmosphere within.

As one enters the mosque, the outside world is left behind. The interior is a simple cave-like space with a concrete ceiling shaped like contour lines on a topographic map. The only ornament is the daylight that enters through the slits and fractures that changes according to the time of day. Water pools placed throughout the building facilitate a feeling of serenity and connection with basic natural elements.

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## *Natural Features Precedent*

*Sancaklar Mosque, Istanbul, Turkey, Emre Arolat Architects, 2015*



**FIGURE 5.13**

*Sancaklar Mosque, Istanbul, Turkey,  
Emre Arolat Architects, 2015  
(Author, 2016)*



## 5.5 FROM DISCONNECTION

# TO A NEXUS OF RECIPROCITY

The process of healing for both man and nature will not be fully acknowledged and realised if the conceptual development of the building does not include **moments of reflection, reconciliation and celebration**: therefore it is vital that the architectural concept articulates the transition between two states. As people that suffer from a disconnection with nature, enter the building to start the process of psychological or physiological healing, a **disconnection and separation** from nature should be **visually evident**. However, as they continue through the building, different routes to healing should be revealed. Finally, people should arrive at a **nexus point** where reciprocity between man and nature has been restored. The nexus point should establish a moment of **reverence and calmness**, as man and nature are reconciled once again.

The Karoo Wilderness Centre (ArchDaily: 2011) is a commendable local example that aims to re-establish the connection between the built and natural worlds as one that is mutually beneficial. The architecture of the centre provides a lasting connection to the landscape, and promotes an understanding of the interdependence of ecosystemic health and human well-being.

The recent phenomenon of human inhabitation in the Karoo has demanded more of the landscape than it can sustain, bringing it to the brink of irreversible depletion. The minimal amount of rainfall in the Karoo has resulted in a scorched condition to which each species of plant and animal has had to adapt.

The structure and form of plant species in the Karoo are characterized primarily by strategies to collect and retain water and provide a shield from the sun. These qualities should be expressed through the architecture of the wellness centre for it to become regionally relevant and support the sustainable continuity of both man and landscape. The building itself thus becomes a nexus of reciprocity, and celebrates the advantages thereof.

### FIGURE 5.14

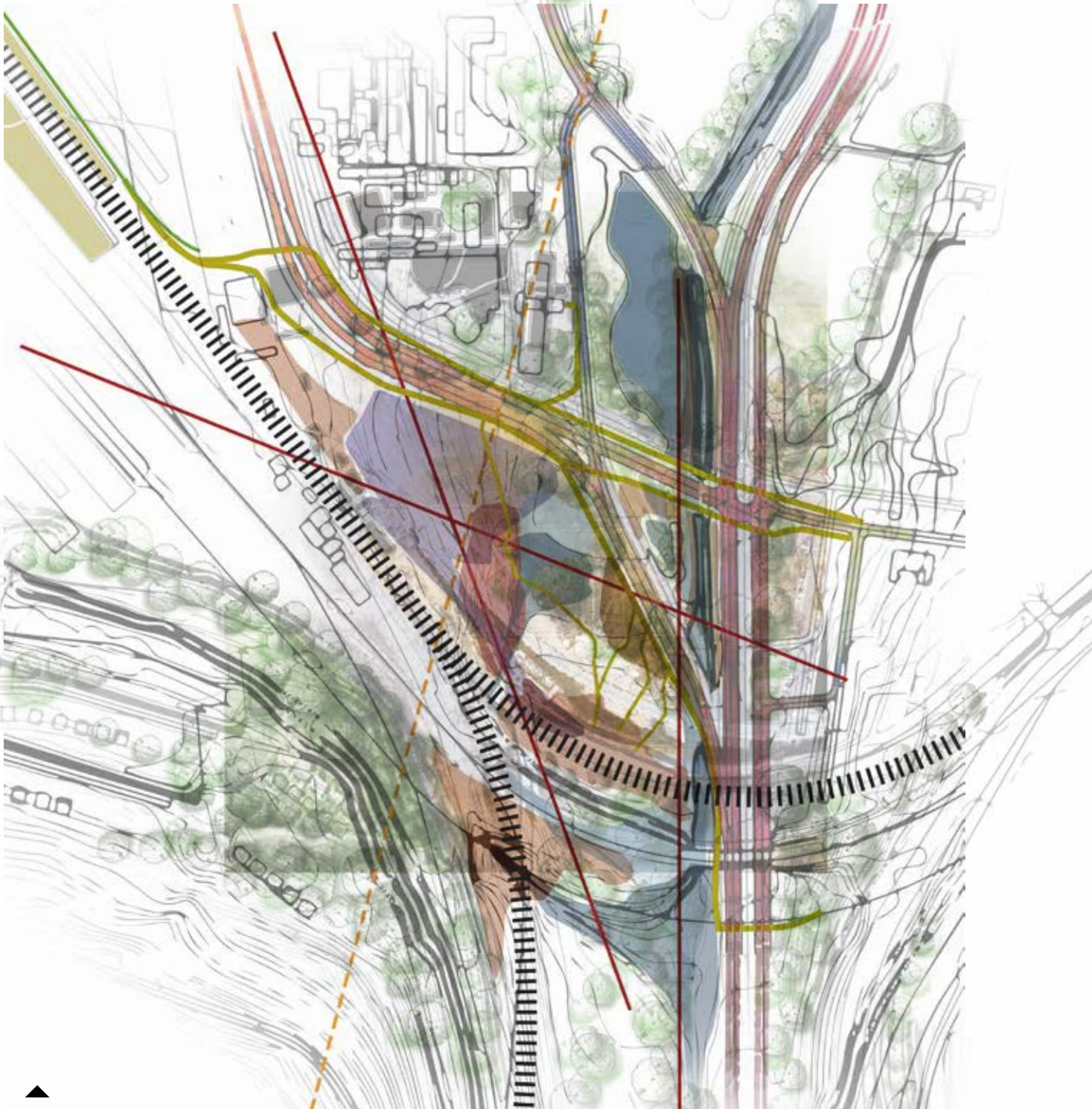
*Karoo Wilderness Centre,  
South African Field Architecture, 2011  
(ArchDaily, 2011)*



# *Natural Analogues Precedent*

*Karoo Wilderness Centre, Karoo, South Africa Field Architecture, 2011*






**FIGURE 5.15**

*Consolidation Map of all informants*

*(Author, 2016)*

## 5.6 SUMMARY

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**B**y embedding the conceptual development of the building in the theoretical framework, it becomes clear how many principles of regenerative design, bioremediation and biophilic design are interlinked, guiding the design of the building to become a **holistic healing experience**. The different precedents also illustrates multiple approaches of how healing, reconnection and celebration between man and nature can be instigated through architectural expressions. The conceptual outcomes that have been discovered, explored and expressed throughout this chapter will be refined and translated into architectural solutions in the following chapters.